

Flow Elements**Series: GFE**

Srl.	Products	Model
1	Orifice Plate	GFE-OP
2	Orifice Plate Assembly	GFE-OPA
3	Integral Orifice Assembly	GFE-IOA
4	Meter Run Assembly	GFE-MRA
5	Restriction Orifice Assembly	GFE-ROA
6	Carrier Ring (Annular Chamber)	GFE-CR
7	Monoblock	GFE-MB
8	Flow Nozzle	GFE-FN
9	Flow Nozzle Assembly (Flanged)	GFE-FNAF
10	Flow Nozzle Assembly (Weld-In)	GFE-FNAW
11	Venturi Tube	GFE-VT
12	Averaging Pitot tube	GFE-APT
13	Cone Flow Meter	GFE-CFM
14	Wedge Flow Meter	GFE-WFM
15	Flow Straightner	GFE-FS
16	Flow Conditioner	GFE-FC
17	Aerofoil	GFE-AE
18	Flow Indicators	GFE-FI
19	Flow Switches	GFE-FS
20	Condensate Pot	GA-CP
21	Air Header	GA-AH
22	Accessories (Refer "Accessories, Instrumentation Valves, Field Instruments" Catalogue for specifications/model)	GA

Note: Part of our development programs, product specifications, photos, drawings, dimensions and other information provided in catalogue/website may change without any notice.

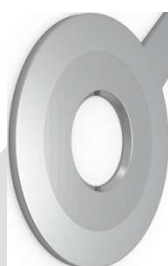
General Specifications:

1) Orifice Plate specifications:

Model	: GFE-OP
Type	: Concentric square edge, Quadrant edge, Segmental, Conical entrance, Eccentric, Single-hole (Restriction), Multi-Hole (Restriction)
Material	: SS304, SS304L, SS316, SS316L, CS, PTFE, PP, PVC, Inconel, Monel, Hastelloy, Duplex, Superduplex
Thickness	: 3.18mm, 6.35mm, 9.52mm, 12.7mm
Bore	: According to AGA 3, ASME MFC 3M, L K Spink, R M Miller, SO5167, BS1042
Face Type	: RF, RTJ (Male), RTJ (Female)
Face Polish	: 1-side, 2-sides
Vent Hole	: Yes, No
Drain Hole	: Yes, No
Size	: ½" to 64"
Rating	: 150# to 2500#, PN10 to PN100
Tab Plate	: Tab plate welded with plate (same or other material), Integral without weld joint (Orifice plate characteristics are laser-engraved on tab plate)
Remarks	: Specifications other than above available on request



Concentric (Model: GFE-OP1)



Conical (Model: GFE-OP2)



Quadrant (Model: GFE-OP3)



Eccentric (Model: GFE-OP4)



Segmental (Model: GFE-OP5)



Multi-hole (Model: GFE-OP6)

Orifice Plate with RTJ Ring

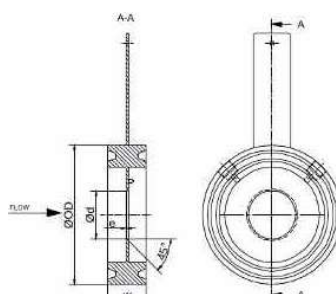
RTJ orifice plate is specifically designed to fit between RTJ flanges to prevent leakage (metallic sealing) of fluid. Female groove type or male types are available depends on the flange face. RTJ orifice plate can be machined from one piece or it can also be screwed to RTJ plate holder, in this way RTJ holder material is softer than the flanges, so that it can improve mechanical sealing. RTJ orifice plate is suitable for a high pressure and high temperature fluid.



Orifice plate with **male** RTJ ring

(Male ring + plate **without weld** joint)
(Model: GFE-OP7)

(Male ring + plate **screwed** together)
(Model: GFE-OP8)



Orifice plate (with **female** RTJ ring without weld joint (Model: GFE-OP9)
(Female ring + plate **screwed** together type also available (Model: GFE-OP10))

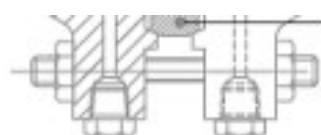


Plate with Plate Holder
mounted in between RTJ Flanges



Integral RTJ



Integral RTJ
with Female Groove

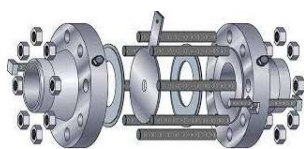


Orifice Plate
with RTJ Holder

(Note:- RTJ ring material same as plate or different than plate possible for the plate and ring separate and screwed together type assembly)

2) Orifice Plate Assembly specifications:

Model	: GFE-OPA
Orifice Plate	: Refer orifice plate specifications (Item No.1)
Flange Material	: SS304, SS304L, SS316, SS316L, A105, F11, F22, LF2, Inconel, Monel, Hastelloy, PTFE, PP, Duplex, Super duplex
Flange Rating	: 150#, to 2500#, PN10 to PN100
Flange Type	: Weld-Neck, Slip-On, Socket-Weld, Threaded
Flange Face	: RF, RTJ
Pressure Tappings	: 1/2"NPTF, 1/2"BSPF, SW (1 each High & Low)
Pressure Taping Type	: Recommended Corner tapings up to 1 1/2", Flange tapings from 2" to 16", D-D/2 for higher sizes
Gasket	: SS spiral wound + CAF, SS spiral wound + Graphoil, SS spiral wound + PTFE, CAF as per IS-2712G Gr0/1
Fasteners	: A193Gr8, A194Gr8, A193GrB7, A194Gr2H
Jack Screw	: A193GrB7
Assembly	: Orifice Plate sandwiched between flanges
Compliance	: ISO5167, DIN 1952, BS1042, API 2530, AGA-3
Options	: IBR, Extra pressure tapings, Nipples, Manifold Valve, DPT, others specify.
Remarks	: Specifications other than above available on request



Orifice Flange (RF) Union Assembly
(Model: GFE-OPA-RF)



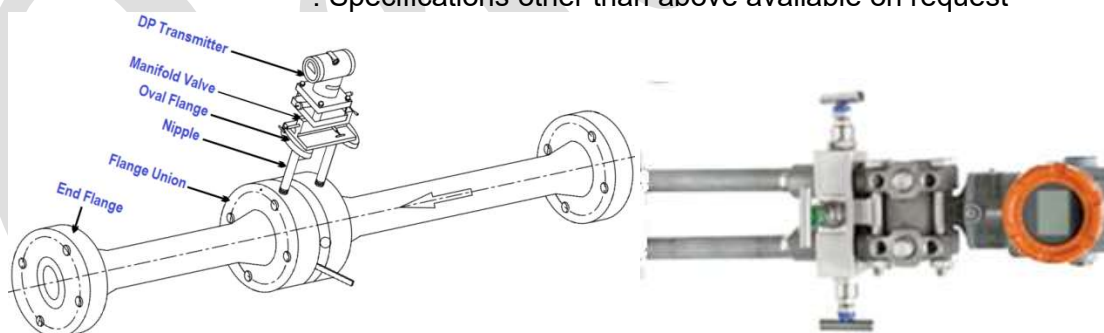
Orifice Flange (RTJ) Union Assembly
(Model: GFE-OPA-RTJ)



Orifice Flange Union Assembly (Integral Nipples, Manifold Valve & DPT)

3) Integral Orifice Assembly specifications:

Model	: GFE-IOA
Orifice Plate Assembly	: Refer above specifications Item No.2
Up & Down steam pipe specifications follows:	
Pipe Material	: SS304, SS304L, SS316, SS316L, A106, Inconel, Monel, Hastelloy, PTFE, PP, Duplex, Super duplex
Pipe Size	: 1/2" to 64"
Pipe Schedule	: Specify
Upstream Length (UL)	: As per standard (minimum), Specify others if any
Downstream Length (DL)	: As per standard (minimum), Specify others if any
Total Length (TL)	: UL + DL + Orifice Assembly length
End Connections	: Flanged, But-Weld, Screwed (provide specifications, if flanged or Screwed)
Remarks	: Specifications other than above available on request



Integral Orifice Assembly (Upstream & Downstream pipes with end Flanges + Orifice Flange Union Assembly (Integral Nipples, Manifold Valve & DPT)
(End pipes But-Weld type also available)

Notes:

- 1) The minimum straight length required are the lengths between various fittings located up & down stream of the orifice plate and the orifice plate itself. Straight lengths shall be measured from the upstream face of the orifice plate.
- 2) In annexure, 1st column for each fitting gives lengths corresponding to «zero additional uncertainty» values (cf standard ISO 5167.1) and 2nd column for each fitting gives lengths corresponding to "0,5% additional uncertainty" values (cf standard ISO 5167.1).

4) Meter Run Assembly specifications:

Model	: GFE-MRA
Type	: Orifice Flange Union (Refer specifications Item No.2) / Carrier Ring Assembly (Refer specifications Item No.6)
Up & Down steam pipe specifications:	
Pipe Material	: SS304, SS304L, SS316, SS316L, A106, Inconel, Monel, Hastelloy, PTFE, PP, Duplex, Super duplex
Pipe Size	: 1/2" to 40"
Pipe Schedule	: Specify
Upstream Length (UL)	: 750mm, Specify others if any
Downstream Length (DL)	: 250mm, Specify others if any
Total Length (TL)	: UL + DL + Orifice Assembly length
End Connections	: Flanged, But-Weld, Screwed (provide specifications, if flanged or Screwed)
Applications	: Water, Steam Water, Steam, Acids, Mixed phase, Air, Gases, Liquids all type above 1250 Reynolds. Recommended for gas metering and custody transfer where high accuracy needed
Options	: IBR, Manifold Valve, Ball/Needle/Glob Valve for isolation
Remarks	: Specifications other than above available on request



Meter Run Assembly - flanged end (But-Weld, Screwed end also available)
(Integral Meter Run Assembly (built-in DPT) also available for line size 1/2" to 2")

5) Restriction Orifice Assembly specifications:

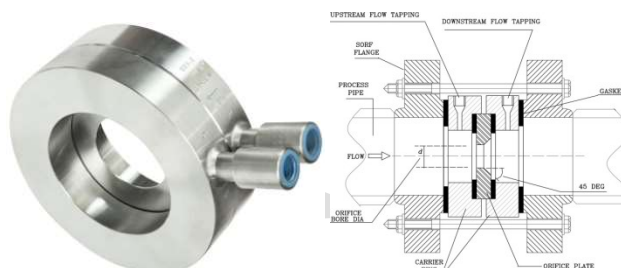
Model	: GFE-ROA
Type	: Single Stage, Multi Stage
Orifice Plate	: Single-hole, Multi-hole, Combination of both (select specifications from Item No.1)
Pipe Material	: SS304, SS304L, SS316, SS316L, A106, Inconel, Monel, Hastelloy, PTFE, PP, Duplex, Super duplex
Pipe Size	: 1/2" to 40"
Pipe Schedule	: Specify
Upstream Length (UL)	: 750mm, Specify others if any
Downstream Length (DL)	: 250mm, Specify others if any
Total Length (TL)	: OL + DL + Orifice Assembly length
End Connections	: Flanged, But-Weld, Screwed (provide specifications, if flanged or Screwed)
Applications	: Water, Steam Water, Steam, Acids, Mixed phase, Air, Gases, Liquids all type above 1250 Reynolds. Recommended for gas metering and custody transfer where high accuracy needed
Options	: IBR, Manifold Valve, Ball/Needle/Glob Valve for isolation
Remarks	: Specifications other than above available on request



Multi Stage Restriction Orifice Assembly
(Single stage also available)

6) Carrier Ring (Annular Chamber) specifications:

Model	: GFE-CR
Orifice Plate	: Refer specifications Item No.1
Flange Union	: Refer specifications Item No.2, if flanged
Ring Material	: SS304, SS304L, SS316, SS316L, CS, PTFE, PP, Inconel, Monel, Hastelloy, Duplex, Super duplex, others on request
Pipe Size	: Up to 2" (higher line sizes on request)
Pressure Tappings	: 1/2"NPTF, 1/2"BSPF, SW (1 each High & Low)
Mounting	: Sandwiched between flanges, Weld with pipe.
Options	: Orifice Plate, Flanges (RF), Gaskets, Nuts & Bolts, Nipples, Manifold Valve, DPT, Temperature Sensor, Piping, Flange Pressure Tap



7) Monoblock specifications:

Model	: GFE-MB
Block Material	: SS304, SS304L, SS316, SS316L, CS, PTFE, Inconel, Monel, Hastelloy, Duplex, Super duplex, others on request
Block Thickness	: 20mm to 60mm, others on request
Block Face	: RF, RTJ (Male), RTJ (Female)
Orifice Plate	: Refer specifications Item No.1
Pipe Size	: 1/2" to 24", others on request
Pressure Rating	: 150# to 2500#, PN10 to PN100
Pressure Tappings	: 1/2"NPTF, 1/2"BSPF, SW (1 each High & Low)
Mounting	: Sandwiched between flanges, Weld with pipe.
Options	: Flanges (RF/RTJ), Gaskets, Nuts & Bolts, Nipples, Manifold Valve, DPT, Temperature Sensor, Piping, Flange pressure taps



8) Flow Nozzle specifications:

Model	: GFE-FN
Nozzle Type	: ASME Long Radius (High beta ratio) with radius taps, ASME Long Radius (Low beta ratio) with throat taps, ISA1932 with corner taps, Venturi Nozzle
Nozzle Material	: SS304, SS304L, SS316, SS316L, SS321, PTFE, PP, Inconel, Monel, Hastelloy, Duplex, Super duplex
Nominal Diameter	: 2" to 24"
Rating	: 150# to 2500#, PN10 to PN100
Compliance	: ISO5167, BS1042, ASME.MFC.3M
Applications	: Gas, Steam, Air, Water, Vapour, Chemical Liquid/Fluid
Options	: IBR, Holding Ring
Remarks	: Specifications other than above available on request



(Long Radius Nozzle)
(Model: GFE-FNL)



(ISA1932 Nozzle)
(Model: GFE-FNI)



(Nozzle+Holding Ring)
(With or without Tab Plate available)
(Model: GFE-FNHR)

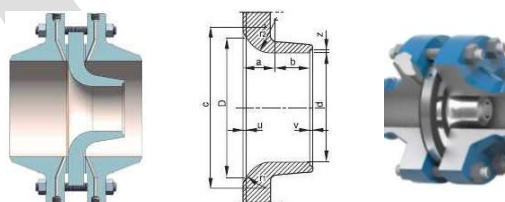


(Nozzle+Carrier Ring)
(Model: GFE-FNCR)

Note : (1) Nozzles can install with “holding ring” to avoid dissimilar material welding with pipe. Pinned (material same as pipe) connection between nozzle & pipe or welded, in this case “holding ring” material will be same as pipe material and Nozzle material can be something else suitable to application. (2) ISA1932 Nozzle can mount between “flanges” or can mount with “carrier ring” or can “weld” with branch pipe (3) Long radius Nozzles are normally welded with branch pipe with radius pressure tapings. (4) Long radius – low beta ratio Nozzle with throat pressure tap recommended for steam turbine performance test as per ASME PTC 6.

9) Flow Nozzle Assembly (Flanged) specifications:

Model	: GFE-FNAF
Nozzle	: Refer specifications of Item No.8
Flange Material	: SS304, SS304L, SS316, SS316L, A105, F11, F22, LF2, PTFE, PP, Inconel, Monel, Hastelloy, Duplex, Super duplex
Flange Rating	: 150# to 2500#, PN10 to PN100
Flange Type	: Weld-Neck, Slip-On, Socket-Weld
Flange Face	: RF, RTJ
Pressure Tapings	: 1/2"NPTF, 1/2"BSPF, SW (1-High & 1-Low)
Gasket	: SS spiral wound + CAF, SS spiral wound + Graphoil, SS spiral wound + PTFE, CAF as per IS-2712G Gr0/1
Fasteners	: A193Gr8, A194Gr8, A193GrB7, A194Gr2H
Jack Screw	: A193GrB7
Assembly	: Nozzle (ISA1932) sandwiched between flanges
Compliance	: ISO5167, BS1042, ASME.MFC.3M
Applications	: Gas, Steam, Air, Water, Vapour, Chemical Liquid/Fluid
Options	: IBR, Nipples, Manifold Valve, DPT.
Note	: If required with Branch pipe & end connections, refer Specifications of Item No.3
Remarks	: Specifications other than above available on request

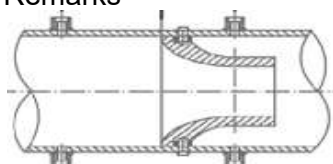


(ISA 1932 Nozzle (Model: GFE-FNAF))

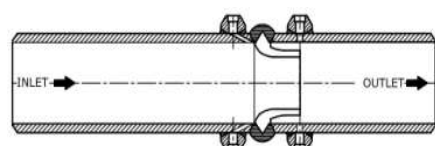
10) Flow Nozzle Assembly (Weld-In) specifications:

Model	: GFE-FNAW
Nozzle	: Refer specifications of Item No.8
Assembly Type	: Weld-in, Weld-in with Holding Ring, Pinned with Holding Ring
Pressure Tapings Type	: Corner, Radius, Throat
Pressure Taping Thread	: 1/2", 3/4" / NPTF, BSPF (1-High & 1-Low)
Branch Pipe Size	: 2" to 24"
Branch Pipe Material	: SS304, SS304L, SS316, SS316L, SS321, A106, PTFE, PP, Inconel, Monel, Hastelloy, Duplex, Super duplex

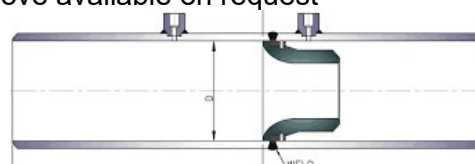
Branch Pipe Length	: Up & Down stream as per standard unless specified
End Connections	: Flanged, But-Weld, Screwed (Specify details, if flanged or threaded)
Compliance	: ISO5167, BS1042, ASME.MFC.3M
Applications	: Gas, Steam, Air, Water, Vapour, Chemical Liquid/Fluid
Options	: IBR, Nipples, Nipples with flange, Manifold Valve, DPT, Extra pressure tapings Temperature Sensor, Mating Flanges, Nuts & Bolts, Gaskets, Wet Calibration (3 rd party lab)
Note	: If Flanged end connections, refer specifications of Item No.9
Remarks	: Specifications other than above available on request



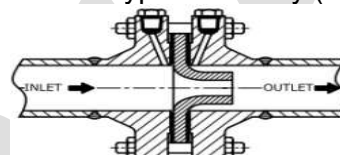
Flow Nozzle (Long Radius) with Holding Ring type Assembly (Radius tapings)



Flow Nozzle (ISA1932) Weld-In type Assembly (Corner tapings)



Flow Nozzle (Long Radius) with Weld-In type Assembly (Radius tapings)



Flow Nozzle (ISA 1932) with Flange Assembly (Tapings on Flanges)



Flanged Nozzle with Branch Pipe Assembly



Venturi Nozzle

11) Venturi Tube specifications:

Model	: GFE-VT
Construction	: Bar Stock Machined-Conical, Sheet Fabricated-Conical, Casting-Conical, Sheet Fabricated-Rectangle (Tetragon Duct type).
End Connections	: Flanged, But-weld
Body Material	: SS304, SS304L, SS316, SS316L, IS 2062, AISI 516-60/70,
Flange Material	: SS304, SS304L, SS316, SS316L, A105, F11, F22, LF2, PTFE, PP, Inconel, Monel, Hastelloy, Duplex, Super duplex
Flange Rating	: 150# to 2500#, PN10 to PN100
Flange Type	: Slip-On, Weld-Neck
Flange Face	: RF, RTJ
Line Size	: 50mm to 250mm (2" to 10") machined, 200mm to 1200mm (8" to 48") fabricated, 100mm to 1200mm (4" to 48") Casting.
Pressure Tapings	: ½"NPTF, ¾"NPTF, ½"BSPF, ¾"BSPF High pressure (at middle of inlet & Low pressure (at middle of throat)
Compliance	: ASME MFC-3M, BS-1042, ISO-5167, LK Spink, AGA-3
Service	: Liquid, Steam, Gas
Options	: IBR for Steam service (Machined), CE compliance, Wet calibration (3 rd party), Extra Pressure tapings, Adaptor for Taping, Full Jacket for Heating, Full Jacket for cooling, Semi Jacket for Heating, Semi Jacket for cooling, Mating Flanges, Nuts & Bolts, Gaskets



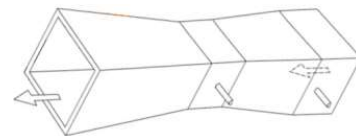
Venturi (Machined)
(Model: GFE-VTM)



Venturi (Rolled & Welded)
(Model: GFE-VTRW)



Venturi (Casting)
(Model: GFE-VTC)



Venturi (Folded & Welded)
(Model: GFE-VTFW)

Note: Generally, Venturi tube with a machined convergent can be used in pipes of size between 2" and 10". However, in the case that the machined type is of large size (8" or 10"), they have disadvantages because of required higher costs due to huge material consume.

12) Averaging Pitot Tube specifications:

Model	: GFE-APT
Sensor Material	: SS304, SS304L, SS316, SS316L, SS321, CS, Inconel, Monel, Hastelloy, Duplex, Super duplex
Sensor Length	: As per standard unless specified
Process Connection	: Threaded Fitting, Flanged 150#RF to 600#RF
Connection Material	: Same as tube material, or specify
Line Size	: 25NB to 5000NB (1" to 200")
Application	: Liquid, Gas, Steam
Options	: IBR, CE, Manifold Valve, DPT, Temperature Sensor, Mating Flange, Nuts & Bolts, Gaskets
Remarks	: Specifications other than above available on request



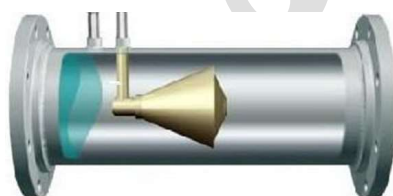
Flanged connection (Model: GFE-APTF)
(End support type & Retractable type also available)



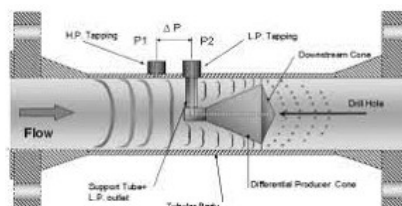
Threaded connection (Model: GFE-APTT)

13) Cone Flow Meter specifications:

Model	: GFE-CFM
Cone Material	: SS304, SS304L, SS316, SS316L, SS321, CS, Inconel, Monel, Hastelloy, Duplex, Super duplex
Cone Size	: As per standard unless specified
Service	: Liquid, Gas, Steam.
Optional	: Assembled with pipe and end connection But-weld or Flanged (specify pipe size/schedule & Flange details)

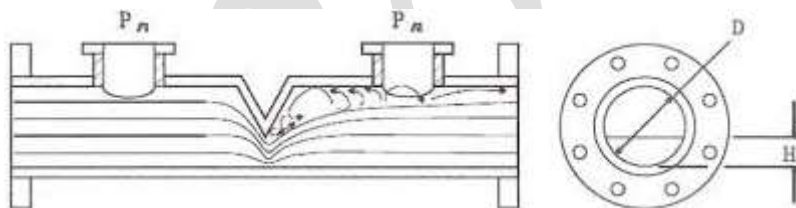


(But-weld end connection also available)



14) Wedge Flow Meter specifications:

Model	: GFE-WFM
Pipe Material	: SS304, SS304L, SS316, SS316L, CS, Inconel, Monel, Hastelloy, Duplex, Super duplex
Pipe Size	: 2" to 36" (DN50 to DN-900)
Pressure Tapings	: 2", 3" (DN50, DN80)
Wedge Size	: As per standard
Wedge Material	: Same as pipe size
Flange Material	: SS304, SS304L, SS316, SS316L, A105, F11, F22, LF2, Inconel, Monel, Hastelloy, PTFE, Duplex, Super duplex
Flange Rating	: 150#, 300#, 600#, 900#, 1500#, PN10 to PN250
Flange Type	: Slip-On, Weld-Neck
Flange Face	: RF, RTJ
End Connections	: Flanged, But-Weld
Compliance	: ANSI, ASME, EN, PED97/23EC, R.W Miller
Service	: Fluid, Liquid, Gas, Steam
Length Requirement	: Downstream 2xD & down to 5xD Upstream
Optional	: Shut of Valve, Condensing Chamber for steam service
Remarks	: Specifications other than above available on request



(But-weld end connection also available)

15) Flow Straightner specifications:

Model	: GFE-FS
End Connections	: Flanged, But-Weld
Tube Material	: SS304, SS304L, SS316, SS316L, A106, PP, PTFE, Monel
Tube Size	: Specify
Tube Bundle Size	: According to tubes size and No. of tubes
Flange Material	: SS304, SS304L, SS316, SS316L, A105, F11, F22, LF2, Inconel, Monel, Hastelloy, PTFE, Duplex, Super duplex
Flange Rating	: 150# to 1500#, PN10 to PN250
Flange Type	: Slip-On, Weld-Neck
Flange Face	: RF, RTJ
Service	: Liquid, Gas, Steam.
Remarks	: Specifications other than above available on request



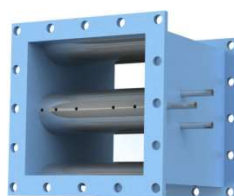
16) Flow Conditioner specifications:

Model	: GFE-FC
Block Material	: SS304, SS304L, SS316, SS316L, A106, PP, PTFE, Monel
End Connections	: Flanged, But-Weld, Sandwiched between flanges
Service	: Liquid, Gas, Steam.
Remarks	: Specifications other than above available on request



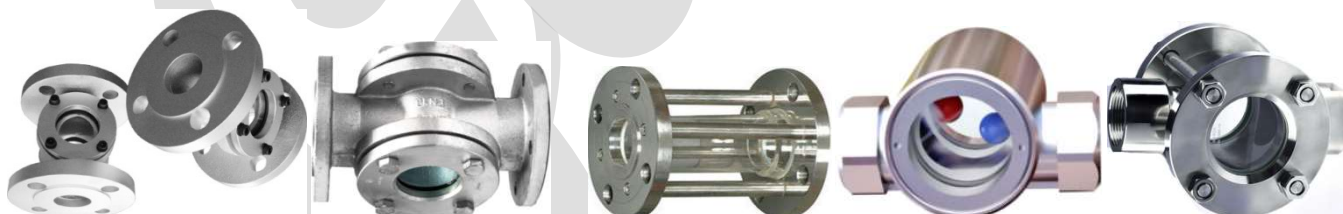
17) Aerofoil specifications:

Model	: GFE-AE
Size	: 300NB to 3000NB
Material	: IS 2062, AISI 516-60/70



18) Flow Indicator specifications:

Model	: GFEFI
Window	: Single, Double, Full view
Type	: Plain, Rotary wheel, Flapper, Drip tube, Ball
Glass	: Toughened Borosilicate
Gasket	: PTFE, CAF, Graphoil
Glass Holder Plate	: SS304, SS304L, SS316, SS316L, CS
Glass Cover Plate	: SS304, SS304L, SS316, SS316L, CS
Fasteners	: SS, ASTM A193Gr.B7/A194Gr.2H, Not applicable
Body Material	: SS304, SS304L, SS316, SS316L, CS
Total Length	: Specify connection face to connection face length
Process Connection	: Screwed, Flanged, Weld-In (Specify specifications)
Remarks	: Specifications & Material other than above available on request.



19) Flow Switch specifications:

Model	: GFEFS
Switch Case	: Die Cast Aluminium, SS304, SS316 Weatherproof IP-67, Flameproof IIA/IIB, Flameproof IIC (Flameproof with PESO(CCOE) certificate)
Cable Entry	: 1 or 2 Nos. of 1/2"NPTF, 1/2"BSPF, 3/4"ETF
Cable Gland	: Double compression or Standard in SS304, SS316, 316L, Brass, ABS Plastic, Not applicable
Switch	: 1-SPDT or 2-SPDT, 230VAC, 5A or 24VDC, 0.5A, Accuracy 1% (Max), Hysteresis 0.5% to 1% (Max), Repeatability 1% (Max), Weight 1.6Kg upto 8Kg depending on flow configuration.
Switch Area Classification	: CCOE, FM, ATEX, CE on request
Flow (LPM) Control Range	: Specify

Displacer Material	: SS304, SS304L, SS316, SS316L, Nickel, Monel, Hastelloy, Titanium.
Flapper Material	: SS304, SS304L, SS316, SS316L, Nickel, Monel, Hastelloy, Titanium, SS PTFE lined, SS PP lined, SS PVDF lined.
Flapper Length	: 12mm upto 200mm depending on flow for control
Flapper Thickness	: 0.15mm upto 2.3 mm depending on pressure & temperature
Bellow Material	: SS304, SS316, SS316L, Monel, Phosphor Bronze.
Bellow Wall	: Double with 20, 30 and 40 convolutions
Bellow Thickness	: More than the convolutions travel/length of the bellow
Process Connection (PC)	: Size: ½", ¾", 1", M18x1.5, M20x1.5 / Type: NPM, BSPM
Service	: Suitable upto 250°C & upto 40Kg/Cmg, DP 75mmwc upto 150mmwc
Remarks	: Specifications & Material other than above available on request.



20) Condensate Pot specifications:

Model	: A-CP
Size	: 50 NB to 100 NB
Material	: CS, SS, Alloy Steel



21) Air Header specifications:

Model	: A-AH
Size	: 40 NB to 100 NB
Material	: SS304, SS316, CS, Others specify
No. of Valves	: Specify



22) *Genèse* offers an array of "Accessories" to complement our primary flow elements for a more complete flow and control solution.

- 20a) Syphon (Refer "Accessories" Catalogue for specifications/model)
- 20b) Nipple (Refer "Accessories" Catalogue for specifications/model)
- 20c) Manifold (Refer "Instrumentation Valves" Catalogue for specifications/model)
- 20d) Differential Pressure Transmitter (Refer "Field Instruments" Catalogue for specifications/model)
- 20e) Upstream & Downstream Pipes (Provide material, size, schedule, length)
- 20f) Orifice Flanges (Provide material, size, rating, type or specify from above item No.2)
- 20g) Pipe end flanges & Mating flanges (Refer "Accessories" Catalogue for specifications/model)
- 20h) Nuts, Bolts, Gaskets (Refer "Accessories" Catalogue for specifications/model)

Note:- Specifications other than above offered on request. Refer "optional items list" or "accessories catalogue" for more details, if required